

WHAT IS CLAIMED IS:

1. A process for preparing a silica/rubber blend which comprises dispersing silica, a silica coupling agent, and a low molecular weight end-group functionalized diene rubber throughout a cement of a conventional rubbery polymer, and subsequently recovering the silica/rubber blend from the organic solvent.
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2. A process as specified in claim 1 wherein the low molecular weight end functionalized diene rubber has a weight average molecular weight that is within the range of about 50,000 to about 200,000.
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3. A process as specified in claim 1 wherein the treated silica and the silica coupling agent are dispersed throughout the cement of the rubbery polymer at a temperature which is within the range of 25°C to 170°C.
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4. A process as specified in claim 2 wherein the low molecular weight end-functionalized diene rubber is functionalized with a tetraalkoxysilane.
5. A process as specified in claim 4 wherein the tetraalkoxysilane is tetraethoxysilane.
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6. A process as specified in claim 4 wherein the tetraalkoxysilane is tetramethoxysilane.
7. A process as specified in claim 1 wherein the silica is present at a level which is within the range of 40 phr to 200 phr.
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8. A process as specified in claim 1 wherein the silica is present at a level which is within the range of 50 phr to 150 phr.
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9. A process as specified in claim 7 wherein the silica coupling agent is present at a level which is within the range of 2 phr to 20 phr.

10. A process as specified in claim 8 wherein the silica coupling agent is present at a level which is within the range of 3 phr to 15 phr.

5 11. A process as specified in claim 9 wherein the low molecular weight end-group functionalized diene rubber is present at a level which is within the range of 4 phr to 20 phr.

10 12. A process as specified in claim 10 wherein the low molecular weight end-group functionalized diene rubber is present at a level which is within the range of 5 phr to 15 phr.

13. A process as specified in claim 11 wherein the silica coupling agent is present at a level which is within the range of 4 phr to 8 phr.

15 14. A process as specified in claim 13 wherein the low molecular weight end-group functionalized diene rubber is present at a level which is within the range of 6 phr to 10 phr.

20 15. A process as specified in claim 2 wherein the low molecular weight end-group functionalized diene rubber is comprised of repeat units that are derived from 1,3-butadiene and styrene.

25 16. A process as specified in claim 21 wherein the low molecular weight end-group functionalized diene rubber is comprised of repeat units that are derived from 1,3-butadiene.

30 17. A process as specified in claim 4 wherein the low molecular weight end functionalized diene rubber has a weight average molecular weight that is within the range of about 65,000 to about 150,000.

18. A process as specified in claim 1 wherein the treated silica and the silica coupling agent are dispersed throughout the cement of the rubbery polymer at a temperature which is within the range of 40°C to 150°C.

19. A process as specified in claim 1 wherein the silica is a precipitated silica having a particle size which is within the range of 7 nm to 60 nm.

5 20. A tire which is comprised of a generally toroidal-shaped carcass with an outer circumferential tread, two spaced beads, at least one ply extending from bead to bead and sidewalls extending radially from and connecting said tread to said beads, wherein said tread is adapted to be ground-contacting, and wherein said tread is comprised of the silica/rubber blend made by the process specified in claim 1.